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Art. III.—*Abnormal Renal Portal Circulation of a Frog.*

By ALICE OSBORNE, B.Sc.

(With Plate I. and one Text Figure).

[Read April 11th, 1918].

I must thank Dr. Buchanan, of the University of Melbourne, for bringing this frog (Hyla aurea), showing an abnormal Renalportal circulation, under my notice.

It is not an uncommon occurrence to find abnormalities in the anterior veins, as well as in other parts of Hyla aurea; but variations in the portal systems are much less frequent.

The abnormality under comment was seen in the Renal portal system of the right side only—that of the left side being quite normal and consisting mainly of a double Renal portal vein.

The Renal portal vein normally arises from the union of the sciatic and the iliac veins. On the right side of this specimen the iliac vein was slightly longer, and the vein formed by the union of the sciatic and iliac veins, which for convenience sake I shall refer to as Renal portal, A, was a large vessel entering the lateral edges of the kidney more anteriorly than did the Renal portal of the left side.

So far as the origin of the vessel, A, was concerned, it corresponded exactly to the normal Renal portal vein, with, however, one difference, viz., the dorso-lumbar vein instead of opening separately and anterior to the Renal portal vein, in this case opened directly and somewhat backwardly into the vessel, A.

In addition, there was another longitudinal vessel, Renal portal vein, B, opening into the kidney in a position corresponding to the entrance of the left Renal portal vein into the left kidney.

This Renal portal vein, B, arose in the dorsal wall of the pelvic region, and had a slight connection along its length with a vessel which arose from the dorsal pelvic region, and emptied its blood into the inner side of the left Renal portal vein.

The latter vessel occurs quite frequently, but appeared somewhat enlarged in this case.

Between the right Renal portal veins A and B was a somewhat curious connection Y, the middle of which received branches from the deeper layers of muscle around the pelvic region.

As a result of this alteration in the course of the blood supply one might expect to find the kidney of the right abnormal side enlarged; but this was not so, both kidneys being of normal size.

It is difficult to find any reason for this abnormality, but it seems possible that during early development the Renal portal vein split into two along its length, and likewise part of vessel Y, the two vessels separated widely, and the two halves of Y separated along the divided part of their lengths, but kept a connecting link showing where the splitting ceased.